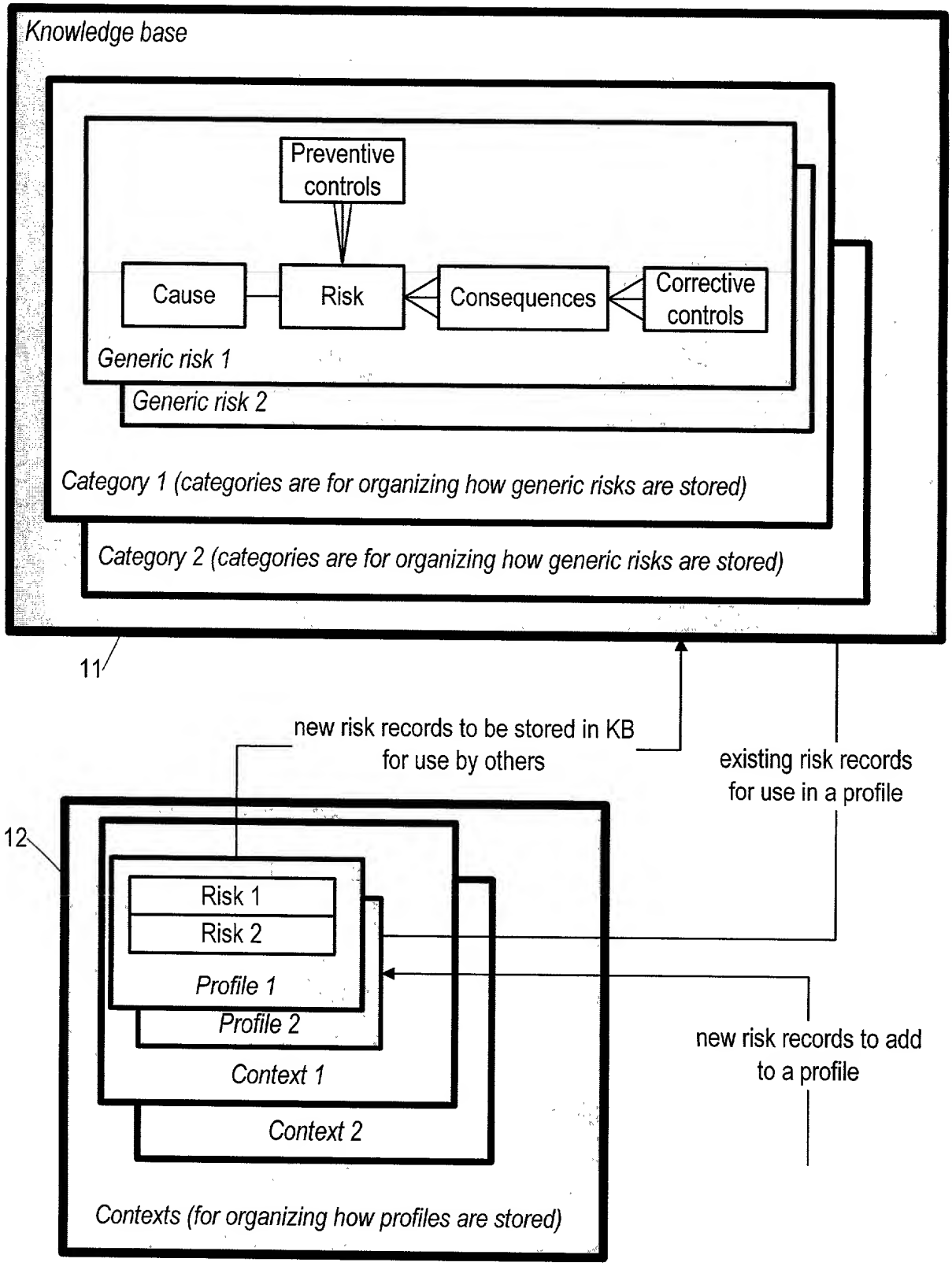
Knowledge base
Preventive controls
Cause
Risk
Consequences
Corrective controls
Generic risk 1
Generic risk 2
Category 1 (categories are for organizing how generic risks are stored)
Category 2 (categories are for organizing how generic risks are stored)
11
new risk records to be stored in KB for use by others
existing risk records for use in a profile
12
Risk 1
Risk 2
Profile 1
Profile 2
Context 1
Context 2
new risk records to add to a profile
Contexts (for organizing how profiles are stored)

Fig. 1A

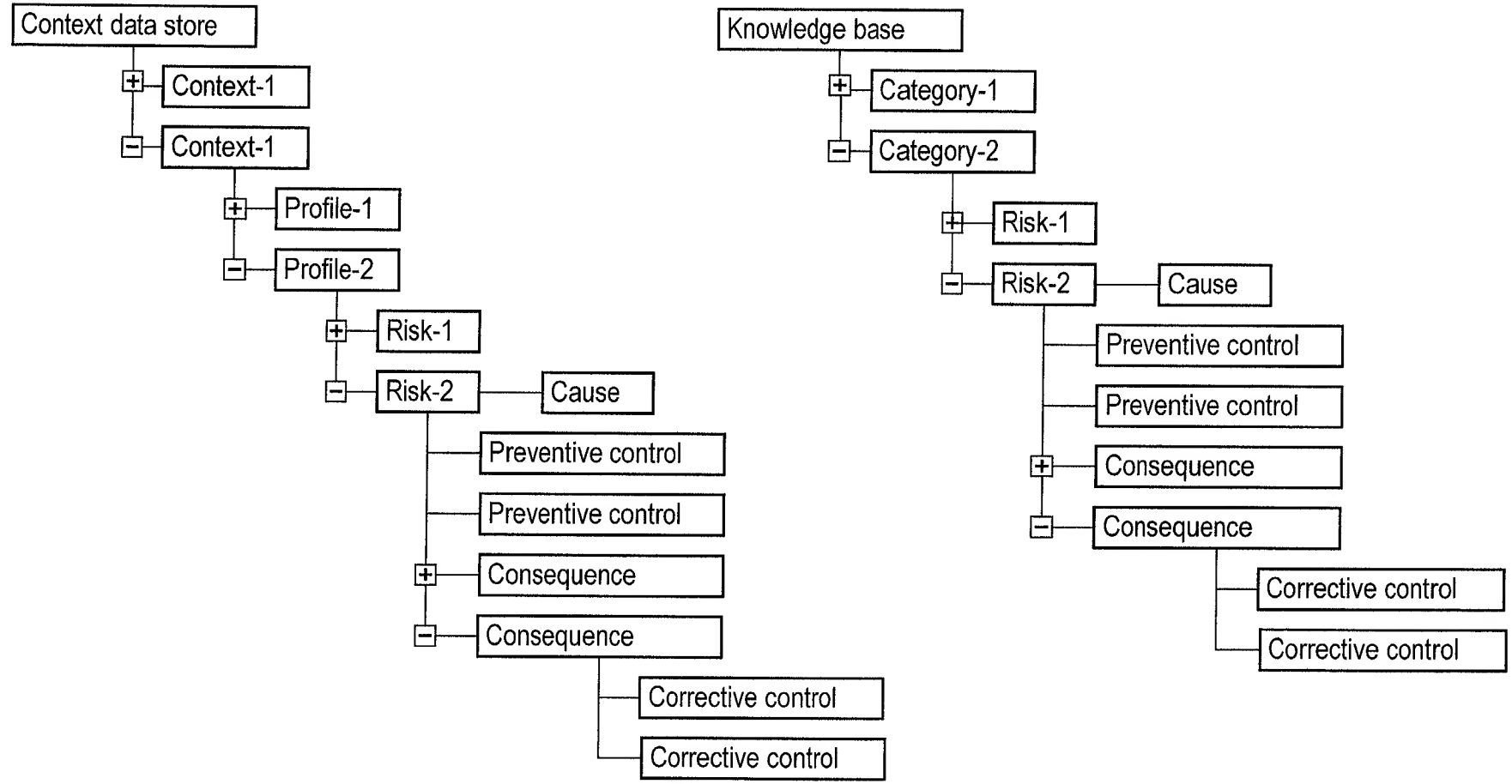
Context data store
Context-1
Context-1
Profile-1
Profile-2
Risk-1
Risk-2
Cause
Preventive control
Preventive control
Consequence
Consequence
Corrective control
Corrective control
Knowledge base
Category-1
Category-2
Risk-1
Risk-2
Cause
Preventive control
Preventive control
Consequence
Consequence
Corrective control
Corrective control

Fig. 1B

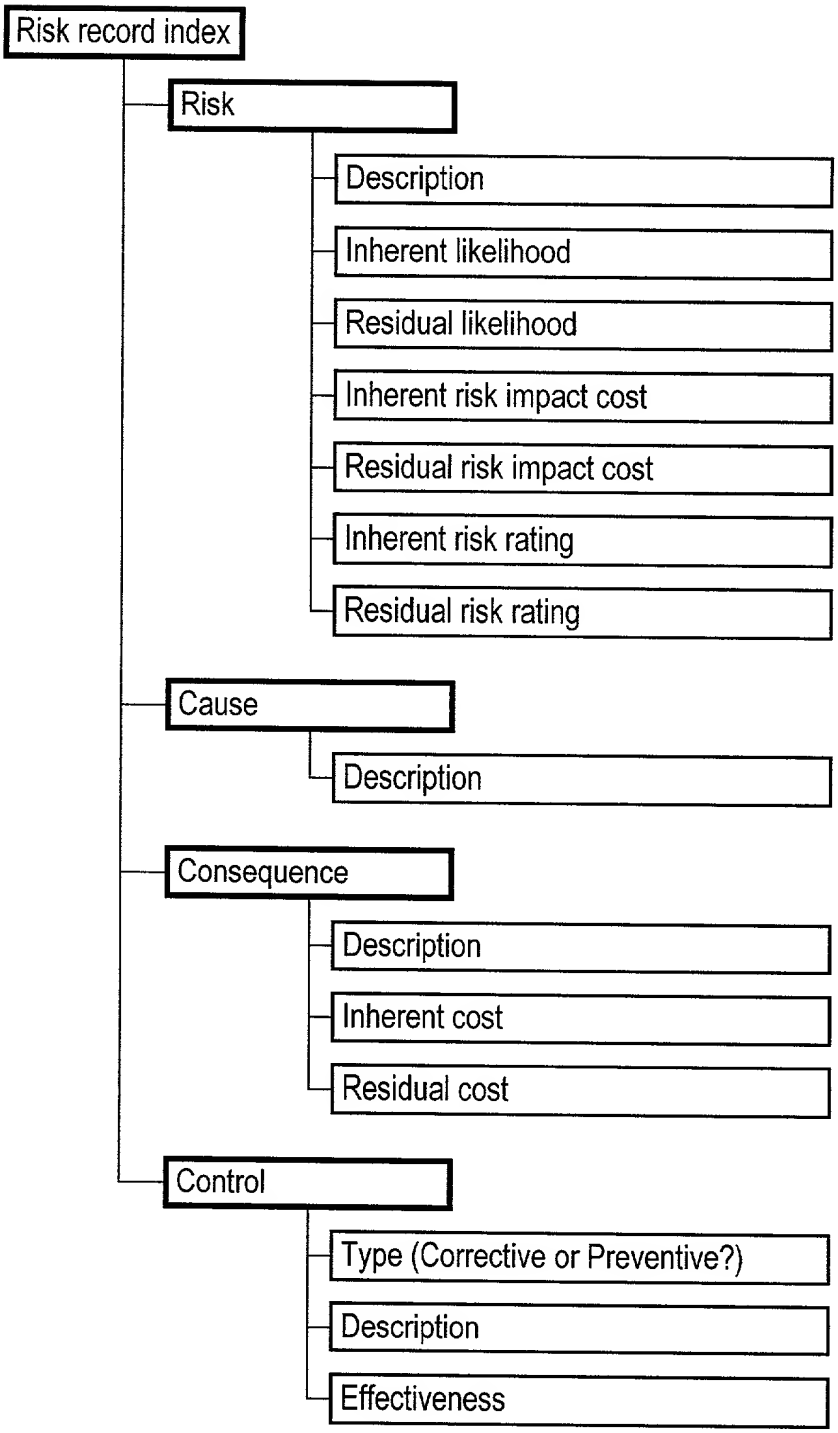
Risk record index
Risk
Description
Inherent likelihood
Residual likelihood
Inherent risk impact cost
Residual risk impact cost
Inherent risk rating
Residual risk rating
Cause
Description
Consequence
Description
Inherent cost
Residual cost
Control
Type (Corrective or Preventive?)
Description
Effectiveness

Fig. 1C

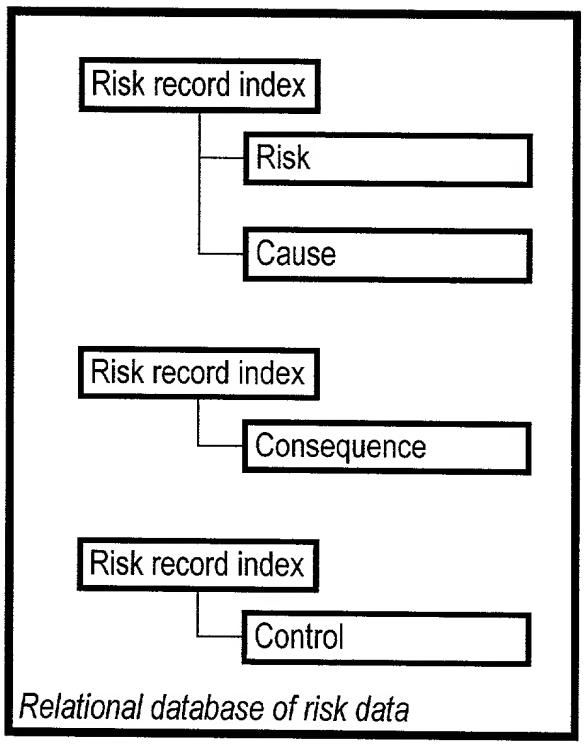
Risk record index
Risk
Cause
Risk record index
Consequence
Risk record index
Control
Relational database of risk data

Fig. 1D

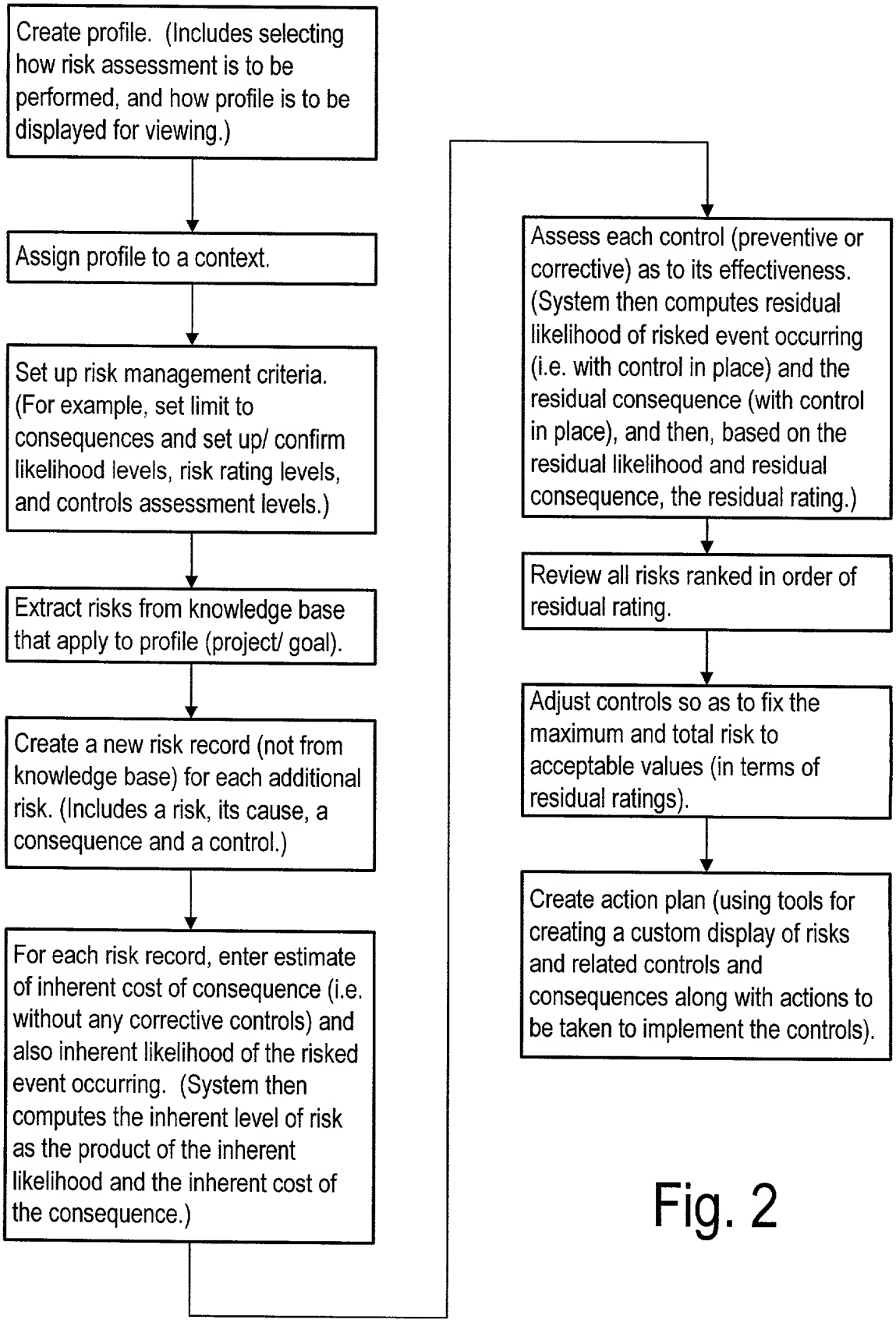
Create profile. (Includes selecting how risk assessment is to be performed, and how profile is to be displayed for viewing.)
Assign profile to a context.
Set up risk management criteria. (For example, set limit to consequences and set up/ confirm likelihood levels, risk rating levels, and controls assessment levels.)
Extract risks from knowledge base that apply to profile (project/ goal).
Create a new risk record (not from knowledge base) for each additional risk. (Includes a risk, its cause, a consequence and a control.)
For each risk record, enter estimate of inherent cost of consequence (i.e. without any corrective controls) and also inherent likelihood of the risked event occurring. (System then computes the inherent level of risk as the product of the inherent likelihood and the inherent cost of the consequence.)
Assess each control (preventive or corrective) as to its effectiveness. (System then computes residual likelihood of risked event occurring (i.e. with control in place) and the residual consequence (with control in place), and then, based on the residual likelihood and residual consequence, the residual rating.)
Review all risks ranked in order of residual rating.
Adjust controls so as to fix the maximum and total risk to acceptable values (in terms of residual ratings).
Create action plan (using tools for creating a custom display of risks and related controls and consequences along with actions to be taken to implement the controls).

Fig. 2

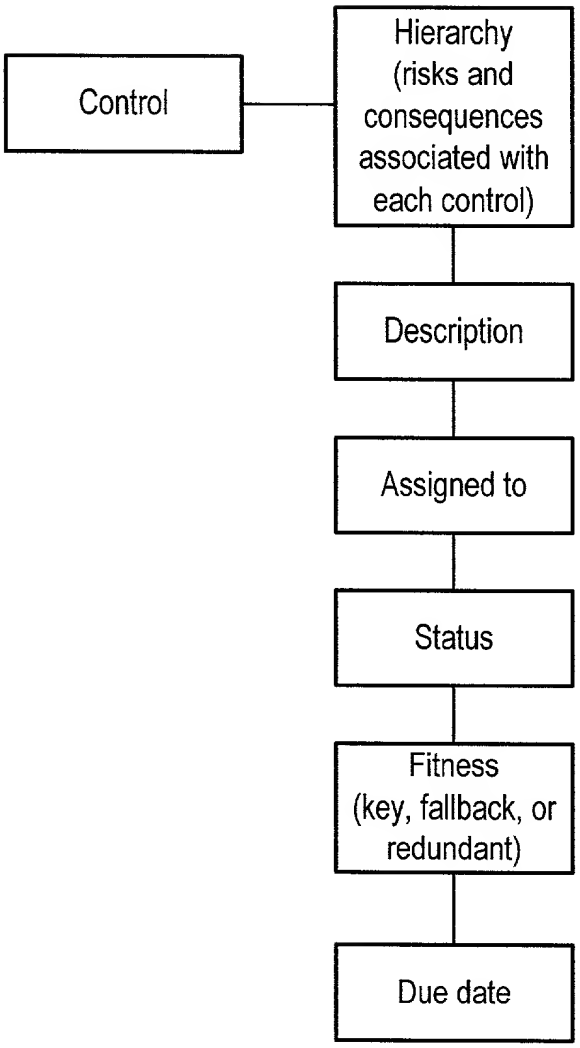
Control
Hierarchy (risks and consequences associated with each control)
Description
Assigned to
Status
Fitness (key, fallback, or redundant)
Due date

Fig. 3

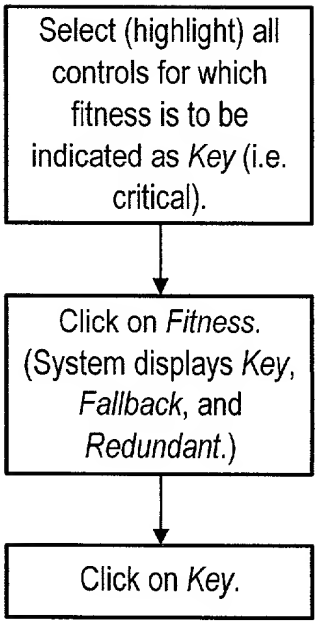
Select (highlight) all controls for which fitness is to be indicated as *Key* (i.e. critical).
Click on *Fitness*. (System displays *Key*, *Fallback*, and *Redundant*.)
Click on *Key*.

Fig. 4

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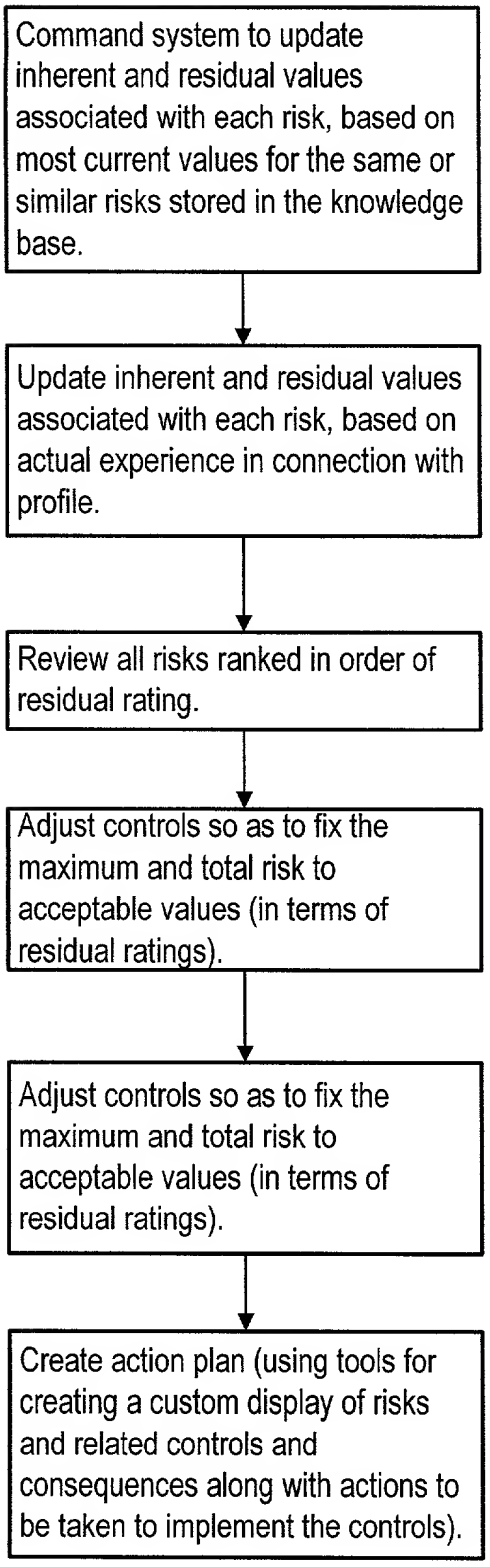

Fig. 5

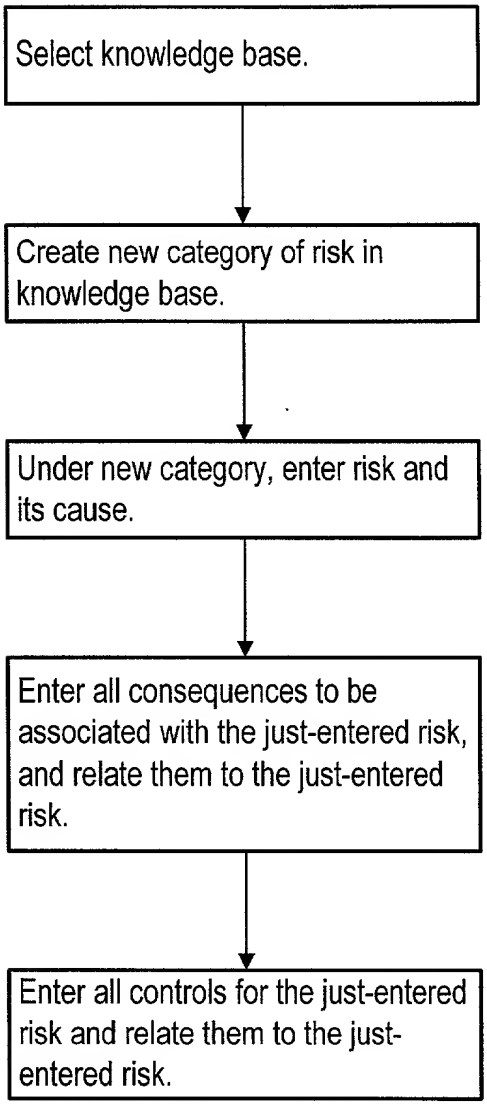

Fig. 6

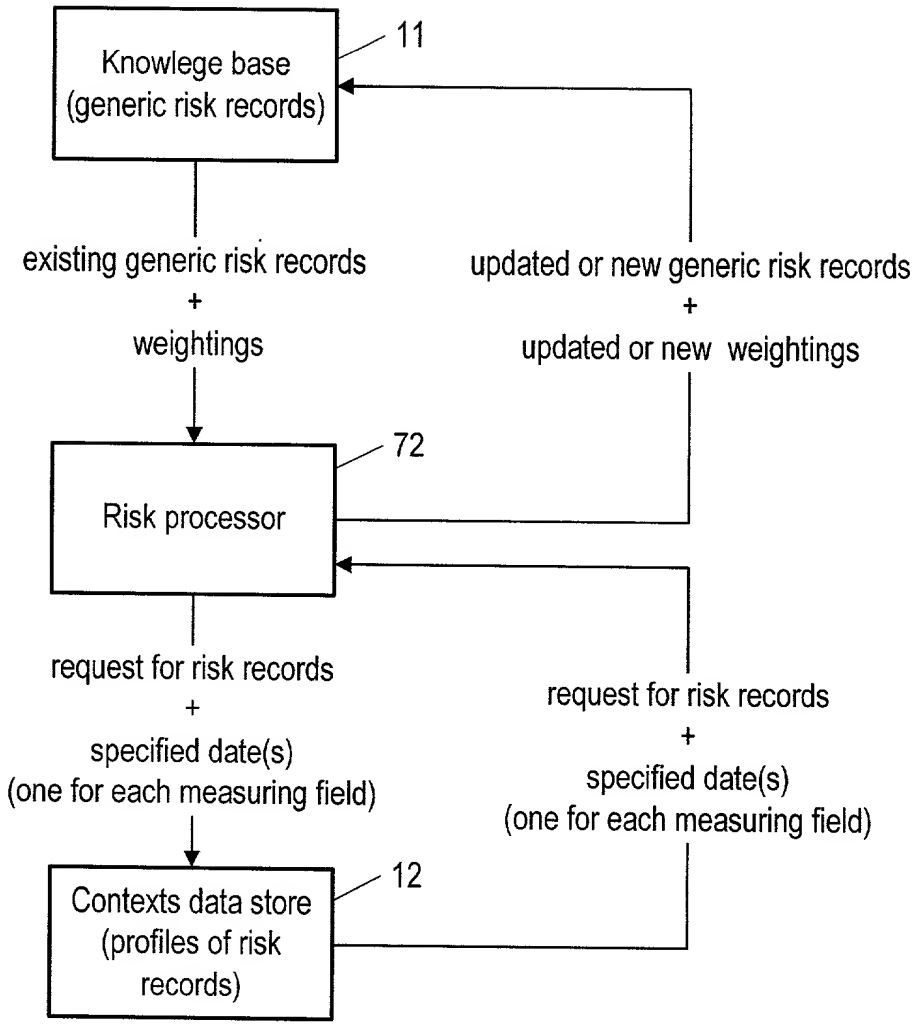
Knowlege base
(generic risk records)
11
existing generic risk records
+
weightings
updated or new generic risk records
+
updated or new weightings
Risk processor
72
request for risk records
+
specified date(s)
(one for each measuring field)
request for risk records
+
specified date(s)
(one for each measuring field)
Contexts data store
(profiles of risk
records)
12

Fig. 7

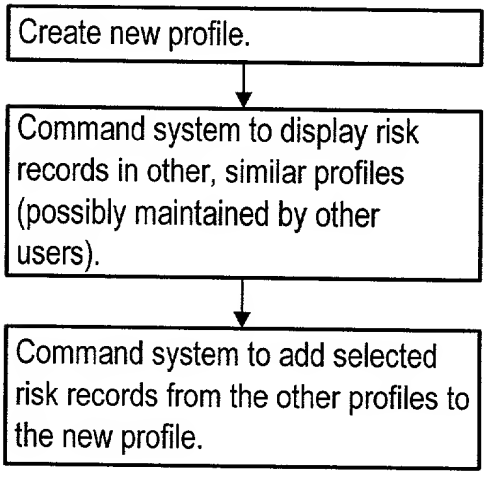
Create new profile.
Command system to display risk records in other, similar profiles (possibly maintained by other users).
Command system to add selected risk records from the other profiles to the new profile.

Fig. 8

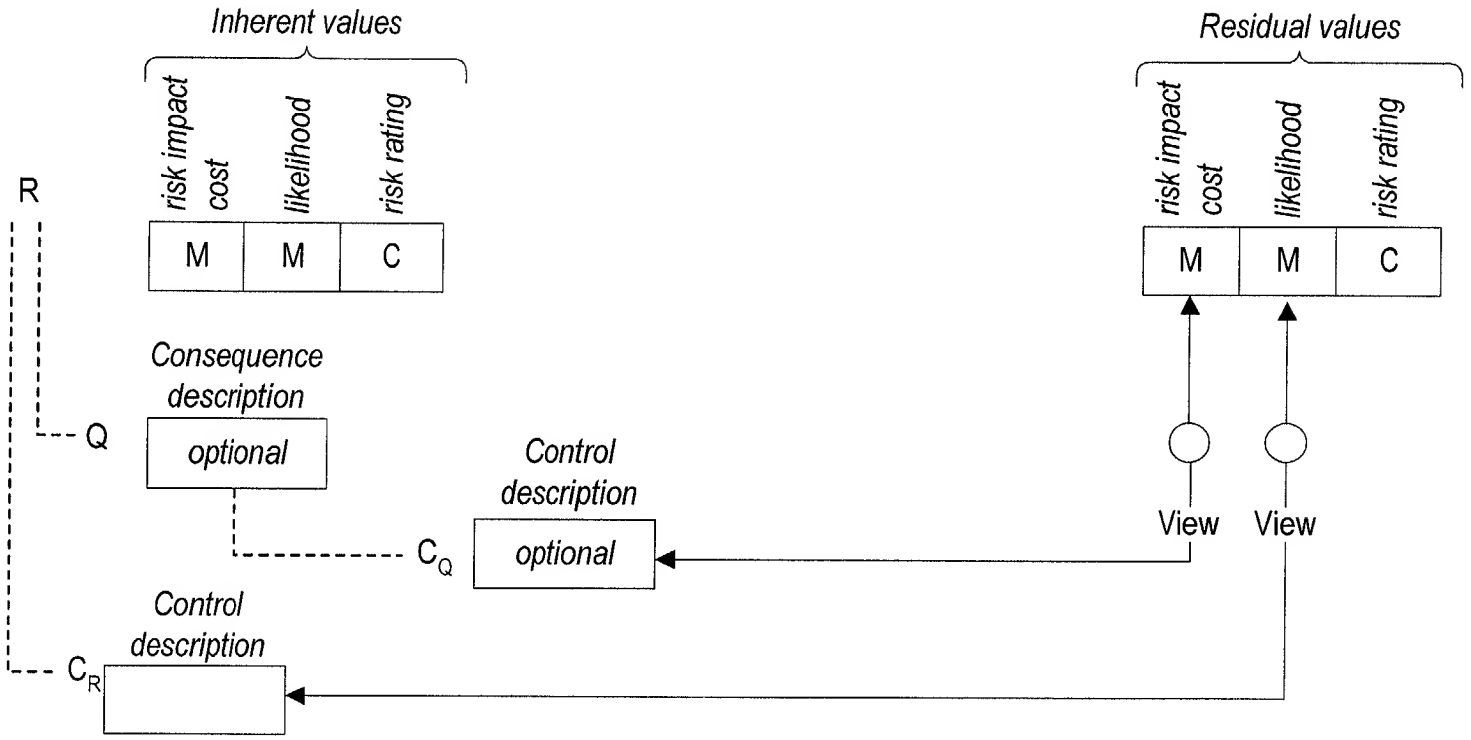
Inherent values
risk impact cost
likelihood
risk rating
M
M
C
R
Q
Consequence description
optional
C_Q
Control description
optional
C_R
Control description
Residual values
risk impact cost
likelihood
risk rating
M
M
C
View
View

Fig. 9A

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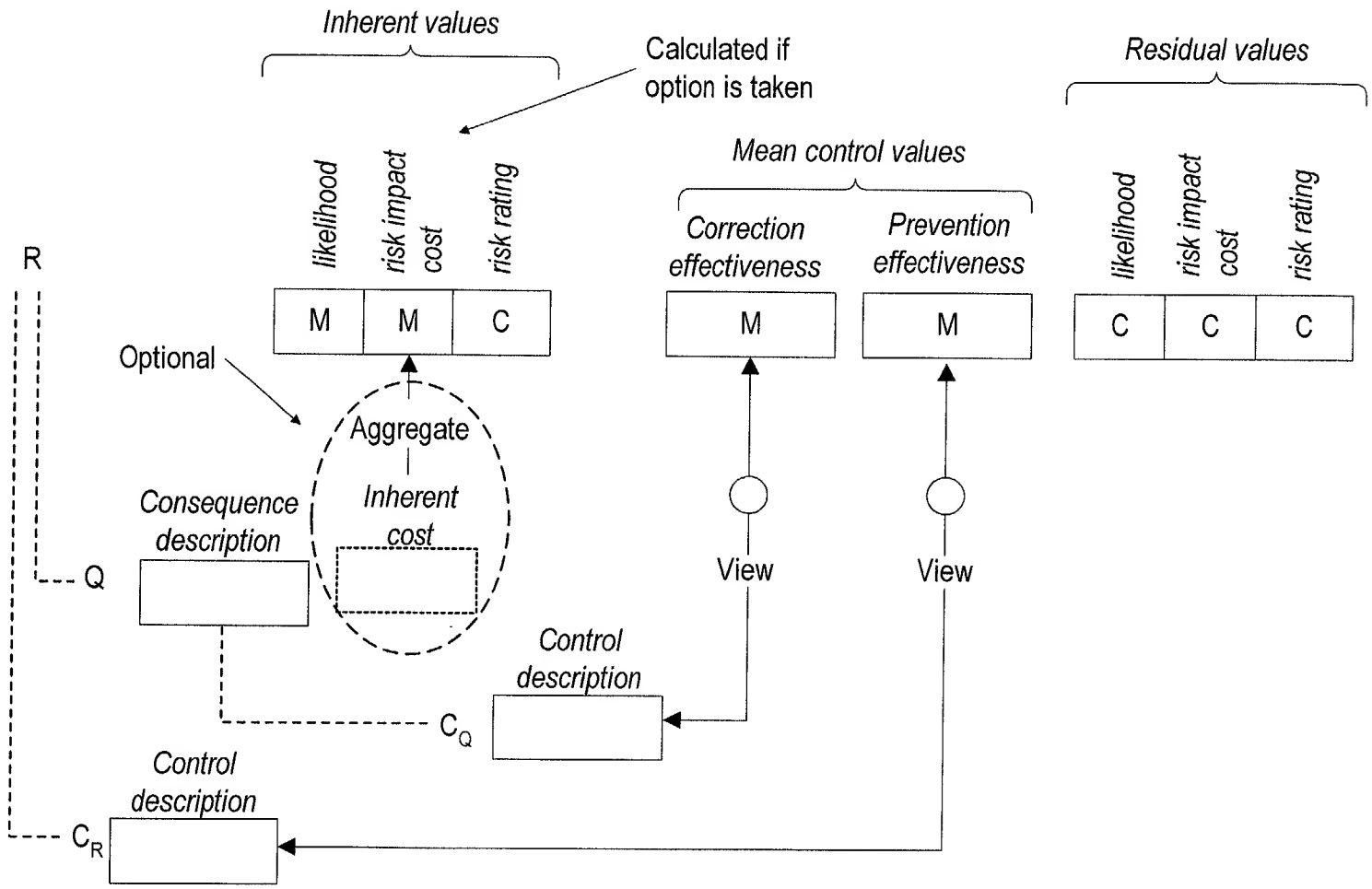

Fig. 9B

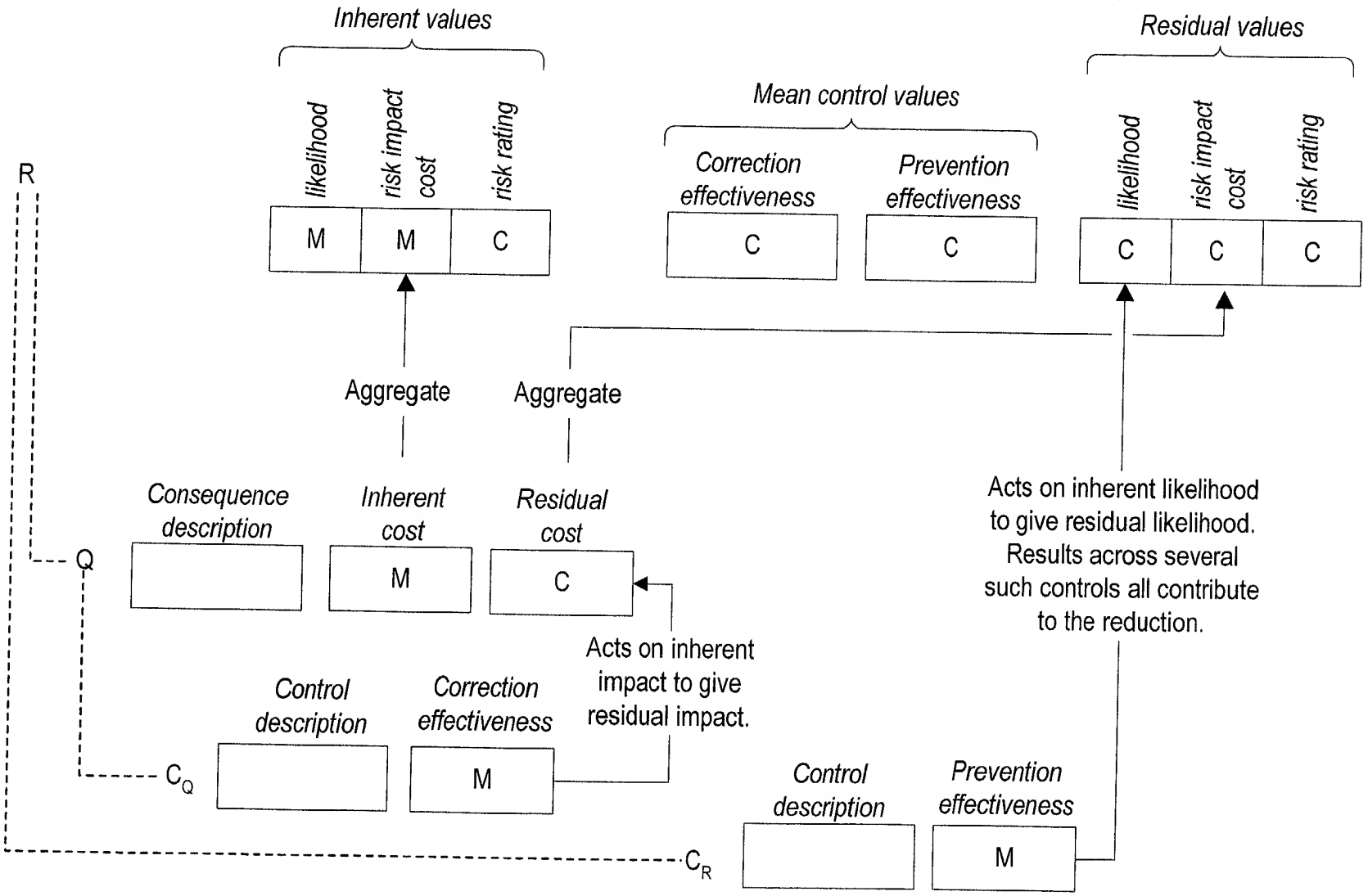
Inherent values
likelihood
risk impact
cost
risk rating
M
M
C
Mean control values
Correction effectiveness
Prevention effectiveness
C
C
Residual values
likelihood
risk impact
cost
risk rating
C
C
C
R
Q
Consequence description
Inherent cost
Residual cost
M
C
Aggregate
Aggregate
Acts on inherent likelihood to give residual likelihood. Results across several such controls all contribute to the reduction.
Acts on inherent impact to give residual impact.
Control description
Correction effectiveness
M
C_Q
Control description
Prevention effectiveness
M
C_R

Fig. 9C